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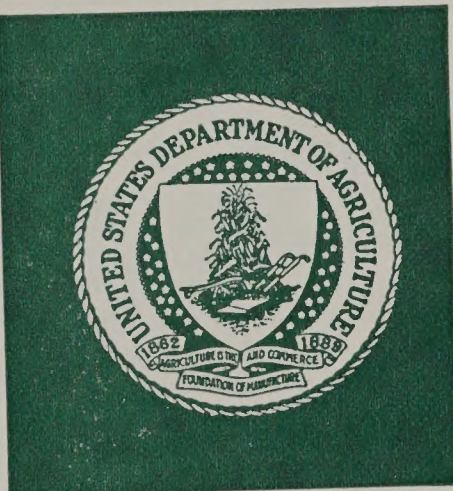
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PREFACE

The purpose of this report is to provide basic resource information needed to develop comprehensive plans of Laramie County, Wyoming. The information contained within can be used by Zoning Commissions, Urban Renewal boards, Water Planning boards, Resource Planning boards, or any group desiring to prepare comprehensive plans for the county or part thereof. It is hoped that use of this material may suggest how income-producing recreation, agriculture, urban development or service type enterprises can be developed to their fullest potential.

The knowledge of the basic resources are a first in the orderly planning for a county. Experienced planners need to know where we are to foresee future problems, needs, and objectives.

The information in this report is in generalities. For specific information regarding individual resources, it is suggested that the reader contact the proper agency listed in the acknowledgements.

ACKNOWLEDGMENTS

The Frontier and Southeastern Laramie County Soil and Water Conservation Districts wish to express their gratitude to the Technical Action Panel (Farmers Home Administration, Soil Conservation Service, Agriculture Stabilization Service, Forest Service, Extension Service, Statistical Reporting Service, Consumers Marketing Service, and the Wyoming Employment Security Commission) in gathering and compiling this information.

No single person, organization, or agency has within itself the capabilities to present all the information. Appreciation is also extended to the following agencies and organizations for the material, information, and support received:

Agricultural Research Service, Animal Health Division
Agricultural Research Service, Plant Pest Control Division
Bureau of Land Management
Cheyenne Chamber of Commerce
Cheyenne Urban Renewal Board
Laramie County Recreation & Planning Board
Laramie County Welfare Department
Office of Economic Opportunity
United States Department of Commerce
United States Geological Survey
United States Weather Bureau
Wyoming Game & Fish Commission
Wyoming Highway Department
Wyoming Natural Resource Board

Wyoming Recreation Commission

Wyoming State Department of Agriculture

Wyoming State Engineer

Wyoming State Geologist

I GENERAL DESCRIPTION OF LARAMIE COUNTY

Laramie County is the southeastern county in Wyoming. The surrounding country is mostly rolling prairie which is used primarily for grazing. The ground level rises rapidly to a ridge of approximately 8,200 feet elevation 30 miles west of Cheyenne, in contrast to a 4,800 elevation at the lowest point in the county. The ridge west of Cheyenne (the State Capitol of Wyoming) is known as the Laramie Mountains, one of the ranges of the Rockies, and extends in a north-south direction. Laramie County has a land area of 2,709 square miles with a population density of 0.98 persons per acre. The growing season of 130 days aids the dry land and irrigated farming district in the eastern portion of the county while the 16 inches of annual rainfall and 12.5 mile-per-hour winds could be considered either plus or minus.

Agriculture is the largest source of income in Laramie County. The annual income from cattle, sheep, and feed grains gives the county a boost. Mineral extractions in Laramie County range from oil to granite and gravel. Recreation and tourists are a year-round business in Laramie County, with the biggest event of the year being a world-famous rodeo called Cheyenne Frontier Days, which is held the last full week in July each year.

The county was established in 1867 and the administrative center or county seat is located in Cheyenne. Also, the State Capitol has been located in Cheyenne since Wyoming became a state in 1890. Transportation to and from Cheyenne is excellent with two railroads,

I - Cont.

five highways, and two airlines serving the county. Laramie County is located in the Denver trade area.

Two soil and water conservation districts operate and provide technical and other assistance. These are:

Frontier SWCD ----- 1,030,026 Acres

Southeastern Laramie County SWCD ----- 699,887 Acres

II LAND OWNERSHIP

About 90 percent of the total land area is privately owned. Most of the Federal land under the jurisdiction of the Bureau of Land Management is found in the extreme western edge of the county and this acreage is gradually being sold to private ownership.

The following table shows the present land ownership of the county:

Private Lands	1,562,400
State and County	128,240
Bureau of Land Management	12,960
Research Stations (Federal & State)	2,300
Warren Air Force Base	6,080
City of Cheyenne (Agriculture Land)	2,060
Non-Agriculture Lands	<u>15,880</u>
Total	1,729,920

III LAND USE

The principle crop of Laramie County is native vegetation and accounts for about 83 percent of the total acreage.

Following is a breakdown of the present Land Use:

Rangeland (native grass)	1,348,390 Acres
Dryland crops & introduced grasses	287,380 "
Irrigated lands under irrigation system	31,280 "
Lands sub-irrigated, overflow with potential for irrigation system	32,780 "
Timbered lands	9,650 "
Non-Agriculture lands	22,240 "

III-A RANGELAND

The natural grazing land resource producing native pasture for domestic and wildlife is a vital resource to Laramie County. It occupies 83 percent of the county land area.

The range resource primarily Loamy to Shallow Loamy range site consists of cool season grasses such as western wheatgrass, needleandthread, prairie junegrass, with an understory of shorter grasses such as bluegrama, buffalograss, and grasslike plants such as threadleaf and needleleaf sedge. Forage produced from 25 to 30 acres plus supplemental winter feed is needed to provide enough feed for one animal unit.

Some range sites produce an abundance of forbs such as scarlet globemallow, hairy goldaster, American vetch, lupins and larkspur. Woody species such as fringed sagewort, perennial eriogonums are of less importance for domestic livestock but have limited use for wildlife and under some conditions will occupy considerable area. Mountain mahogany and antelope bitterbrush on

III-A - Cont.

certain sites provides excellent wildlife grazing and cover.

The limiting factor of the resource is precipitation and grazing management. The precipitation averages 15-17 inches per year with peak precipitation usually in the last half of May and diminishes rapidly the last half of June and the first half of July.

The resource potential depends on management and responds to the grazing use applied to it. To implement more production on the range, lands that have been previously cultivated or poorly managed or allowed to "go back" could be re-seeded to higher producing species. Protection is needed for range improvement from fire, erosion, rodents, insects, and encroachment of weedy plants.

Improved distribution can be obtained through fencing and water developments. In some areas, plains larkspur presents a problem in achieving good distribution. Systems of deferred-rotation grazing should be developed and followed. Ranchers are realizing that grazing done the same time each year eventually reduces the over-all production. This is especially true on early spring pastures where the cool season species have been replaced by warm season grasses.

III-B CROPS

Laramie County is an area often classified as "Mountain Shadow" country, where the growing season is short and average annual precipitation is relatively low, ranging up to 16 inches at some stations. Because of this, irrigation or special cropping practices such as strip cropping, contour farming, stubble mulching, and other related wind and water erosion practices are required for most field crops and the selection of suitable field crops is limited.

Excluding pasture, winter wheat accounts for most of the crop acreage in the county with nearly 86,000 acres harvested in 1968. Hay was next in importance with about 52,000 acres harvested. Other crops harvested and ranked in order of importance in 1968 are as follows: barley, 8,000 acres; corn, 6,200 acres; oats, 5,000 acres; rye, 4,000 acres; potatoes, 1,600 acres; and sugar beets, 970 acres. There are some other crops with the ability to grow in this area, but they have insignificant acreages. These are safflower, millet, and sorghums for silage.

A large percentage of the land previously tilled is now planted to perennial introduced grasses. This practice is continuing especially on soils that are too shallow or subject to severe wind and water erosion to support good crop production. However, some native vegetation is being converted to irrigated cropland

III-B - Cont.

due to the increased irrigation well development. This is confined to the southeastern one-third of the county. (See water resource map.)

Virtually all of the field crop acreage in the county is located at lower elevations between the Nebraska border and Cheyenne. However, the climate even in this area is not conducive to growth and development of long season crops, fruits, vegetables, or horticultural specialties.

III-C LARAMIE COUNTY TIMBER RESOURCE

The first extensive use of timber in Laramie County was in the construction of the transcontinental telegraph line. Although there are no records available which show the amount of timber removed for this project, some authorities indicate that some of the poles used in Nebraska and southern Wyoming probably came from timber lands in what is now Laramie County.

Another early use of timber occurred during the construction and early operational phases of the Union Pacific Railroad. From 1867 - 1870, timber for ties and fuel wood most certainly was cut from all possible areas within what is now Laramie County. This cutting for similar products, including mine props, no doubt topped every virgin stand of timber within the county. Records indicate

III-C - Cont.

that as late as 1902 the Union Pacific was cutting ties and mine props from lands at least near what is now Laramie County.

An inventory of the timber resource in Laramie County indicates there are 9,653 acres of forest land. This forest type can best be described as a savanna by appearance. Of this total, 6,036 acres are classified as commercial forest land and 3,617 acres of noncommercial. Generally the timber in the County is not considered to be located on sites that would produce timber of sufficient size and density to be cut for saw timber. Data gathered on the better timber stands indicate that there are only 2.3 MBF per acre in these timbered stands. This would clearly show that the stands could not support a commercial saw-log operation. In some areas, however, especially along the Laramie-Albany County line, there is timber that could supply round stock suitable for small post and pole operations if properly managed. Similarly, existing timber stands could supply raw material to support a small commercial operation geared to sell fuel wood by the cord. Of course, all the timber resource in Laramie County has intrinsic aesthetic and watershed values.

An industry now lacking in the county, but one that offers great promise in the future, is the production of Christmas trees and ornamentals. Many timber producing lands in the county could

III-C - Cont.

be placed under intensive management aimed at producing the above mentioned products. In addition, many acres of farm and ranch lands could be easily adapted to tree farming. Although certain requirements are necessary to produce quality Christmas trees and ornamentals, many areas now classified as farm and ranch land could be converted to the production of these valuable products. Site selection would be the key to this industry. Having selected the proper site and proper tree species, irrigation, cultivation, and fertilization would be some of the intensive management practices that would be necessary to insure success.

As discussed earlier, timber produced in this county probably could not support a milling operation located here. This does not preclude the fact that a small finishing mill should not be considered. The high quality transportation available in the county makes it quite feasible to import raw materials needed to supply an operation of this type. The transportation resource here would be the drawing card to this industry and in fact make it worth considering. The timber industry, like most, depends on good reliable transportation in order that raw materials are readily available and markets for the finished products can be developed.

III-D NON-AGRICULTURE LANDS

Of the non-agriculture lands in Laramie County, the city of Cheyenne and the Warren Air Force Base account for more than half the acreage. Federal, state, county, and private roads also cover considerable acreage. The remaining acreage is utilized by rural areas, mining, oil well fields, and industry.

IV GEOLOGY

The Sherman Mountains extend through the county from north to south along the western border. They were composed of Precambrian gneiss, granite, and schists. This mountain building occurred during the Laramide revolution and was formed by thrusting Carboniferous, Triassic, and Cretaceous sediments eroded away from the mountain masses but are exposed in faults and other structures along the east flank of the mountain range.

The anticlinal and faulted area parallels the mountains along the eastern front exposing the Pre-Tertiary sedimentary rocks. These rocks may have an aggregate thickness of as much as 12,000 feet and are exposed only in a narrow belt along the eastern mountain front.

Rocks of the Tertiary age are found on plateaus and rolling topography and comprise the bulk of the county from the mountains to the eastern border.

The White River formation is composed of the Chadron and Brule formations. The White River is remarkable uniform throughout the county consisting predominantly of massive brittle argillaceous siltstone.

The Arikaree formation is generally homogeneous and is predominantly a very fine grained to fine grained massive sandstone.

IV - Cont.

The Ogallala formation consists of lenticular beds of sand and gravel deposited by braided streams and of silt, clay, and thin limestone beds deposited in temporary lakes. The gravel in the Ogallala was derived from the mountains to the west edge of the county.

The most recent deposits from the Quaternary age, and including the present, is Alluvium and consists of lenticular beds of poorly sorted clay, silt, sand, gravel, and boulders that were derived from all the older rocks in the area.

V LARAMIE COUNTY NARRATIVE CLIMATOLOGICAL SUMMARY

Laramie County is located in the southeastern corner of Wyoming with elevations above sea level ranging from near 5,000 feet along the eastern and northern borders to near 7,000 feet along the western border. The land continues to rise west of Laramie County to reach near 9,000 feet about 35 miles west of Cheyenne. This is the top of the Laramie Range, which is north-south oriented. Laramie County lies on a broad ridge with elevations lower to the north, east and south. Laramie County generally consists of rolling prairie. As a result of the topography, westerly winds are down-slope and produce a marked chinook effect across the County. Chinook winds, also known as downslope winds, are heated by compression 5.5° for every 1,000-feet descent. Conversely, winds from north through east to south

V - Cont.

are upslope winds and produce the opposite effect. Laramie County winds are dominantly from the west, especially during late fall through spring.

Laramie County experiences large diurnal and annual temperature ranges. This is due to the advent of both warm and cold airmasses and the relative high elevation of the County. The higher elevation permits rapid incoming and outgoing radiation heating and cooling. The Daily temperature range averages about 30° in the summer and about 23° in the winter. The annual mean temperature of 46° ranges from about 26° in winter to about 70° in the summer. Pine Bluffs, at the eastern border, has registered 109° for its extreme maximum, while at Cheyenne, 100° has been reached on only four occasions since 1870. The coldest temperature recorded in the County is -38° . Normally, Pine Bluffs would average 44 days per summer where temperatures would reach 90° or above, while Cheyenne shows but 12. On the average, during the winter, temperatures drop to 0° or below 13 days at Pine Bluffs and 11 days at Cheyenne.

Many of the outbreaks of cold air from Canada during the fall through spring season miss Laramie County due to the general downslope of the land to the Mississippi, and to the prevailing westerlies. On other occasions, only the edge of the cold air will invade the County and move out again within 24 to 48 hours. Of course, some of the arctic airmasses do move over the County, but only 10 to 15% of the days in an average January, the coldest month of the year show tempera-

V - Cont.

tures dropping to zero or below. It is interesting to note that temperatures in Laramie County average cooler in the summer and warmer during the winter than over the Mississippi and Missouri Valleys at the same latitude.

Most of the airmasses reaching this area move in from the Pacific and since the mountains to the west are quite effective moisture barriers, the climate is classified semiarid. Precipitation is least in December, increasing to a maximum in late May and early June. Moisture amounts then decrease rapidly the latter part of June, remaining at a medium level until fall, when they decrease again to the December minimum. Normally, about 60% of the annual 15 to 17 inches of precipitation falls between the average 32° freeze-free period, and about 70% between the average 28° freeze-free period. In summer months, precipitation is mostly of the shower type, occurring mostly from mid afternoon to early evening. As a result, precipitation amounts vary widely across Laramie County on any one day. Also, in connection with thunderstorms, hail is frequent and occasionally destructive, especially in the southeast corner of the County. Most of the snow falls during the late winter and early spring months. It is not uncommon to have heavy snow in May, and on rarer occasions during the first few days of June.

Windy days are quite frequent during winter and spring. Winds at Cheyenne average 13.6 mph for the year, ranging from 10.9 mph in July to 15.8 mph in January. Daytime winds are typically stronger than nighttime winds and occasional storms can bring brief periods of quite high winds with gusts bettering 75 mph.

V - Cont.

Because of cold air outbreaks from Canada and rapid nighttime radiation cooling, late spring and early fall freezes are not uncommon. The average last occurrences of 32° and 28° in the spring and the average first occurrences of 32° and 28° in the fall, along with their average growing seasons, for Cheyenne and Pine Bluffs are shown in Table I below. In Table II, are shown some probabilities of freeze occurrence for these two points.

TABLE I. Freeze Data, Cheyenne and Pine Bluffs

	Avg. Last Occurrence in Spring		Avg. First Occurrence in Fall		Days of Avg. Growing Season	
	<u>32°</u>	<u>28°</u>	<u>32°</u>	<u>28°</u>	<u>32°</u>	<u>28°</u>
Cheyenne	May 23	May 11	Sept. 27	Oct. 7	127	149
Pine Bluffs	May 21	May 7	Sept. 21	Oct. 1	123	147

TABLE II. Freeze Probabilities, Cheyenne and Pine Bluffs

SPRING

Probability of Temperature Dropping to 32° and 28°, After Date Shown.

	<u>32°</u>					<u>28°</u>				
	<u>1 yr. in 20</u>	<u>2 yrs. in 20</u>	<u>4 yrs. in 20</u>	<u>6 yrs. in 20</u>	<u>8 yrs. in 20</u>	<u>1 yr. in 20</u>	<u>2 yrs. in 20</u>	<u>4 yrs. in 20</u>	<u>6 yrs. in 20</u>	<u>8 yrs. in 20</u>
Cheyenne	6/14	6/9	6/3	5/30	5/26	6/2	5/28	5/22	5/18	5/14
Pine Bluffs	6/10	6/5	5/31	5/27	5/24	5/27	5/22	5/17	5/13	5/10

V - Cont.

TABLE II. - Cont.

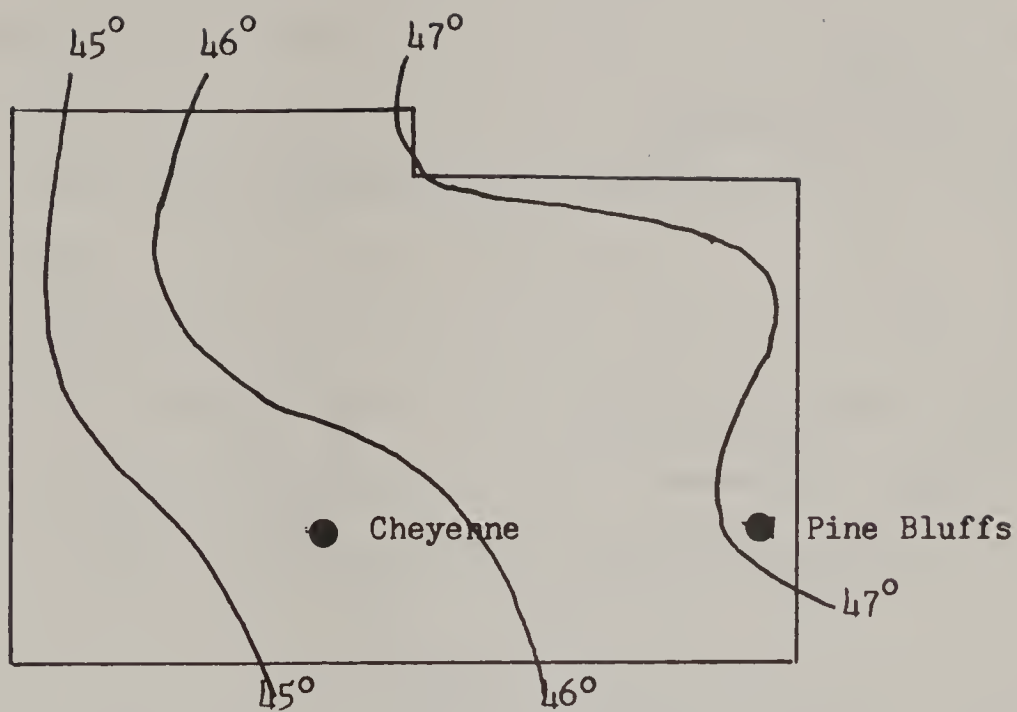
Probability of Temperature Dropping to 32° and 28°, Prior to Date Shown:

	<u>32°</u>					<u>28°</u>				
	<u>1 yr. in 20</u>	<u>2 yrs. in 20</u>	<u>4 yrs. in 20</u>	<u>6 yrs. in 20</u>	<u>8 yrs. in 20</u>	<u>1 yr. in 20</u>	<u>2 yrs. in 20</u>	<u>4 yrs. in 20</u>	<u>6 yrs. in 20</u>	<u>8 yrs. in 20</u>
Cheyenne	9/6	9/11	9/16	9/20	9/24	9/16	9/21	9/26	9/30	10/4
Pine Bluffs	8/30	9/4	9/10	9/14	9/18	9/9	9/14	9/20	9/24	9/28

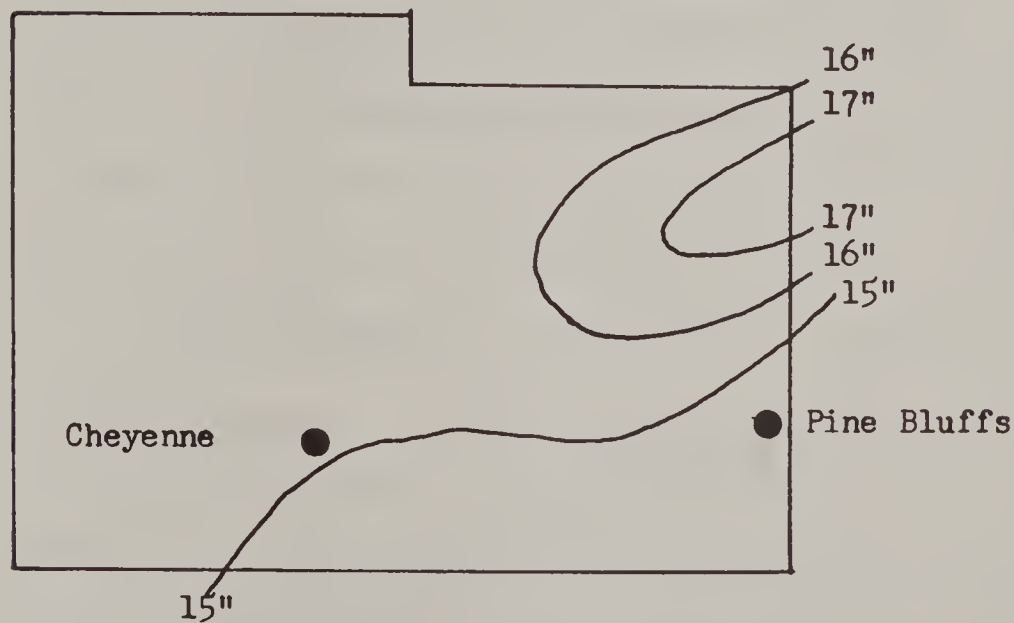
Relative humidity averages just better than 50% on an annual basis with major daily and monthly variation. Very seldom does relative humidity remain as high as 30% when temperatures rise past 80°.

Sunshine averages around 65 percent on an annual basis, with great daily but small monthly variation.

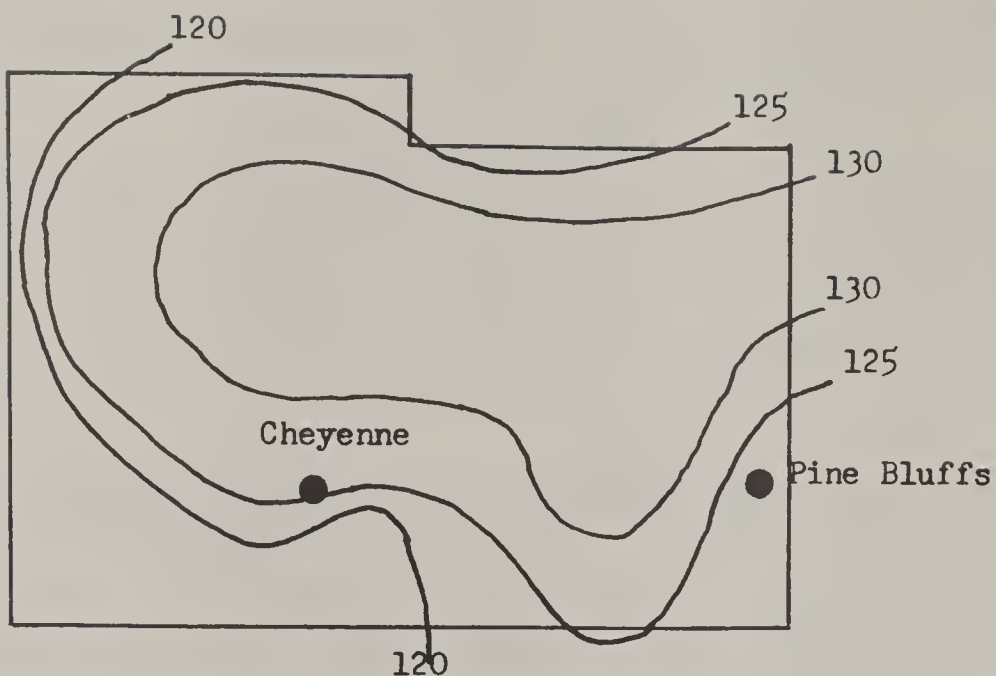
Variation in some climatic factors across Laramie County is depicted in the attached maps.



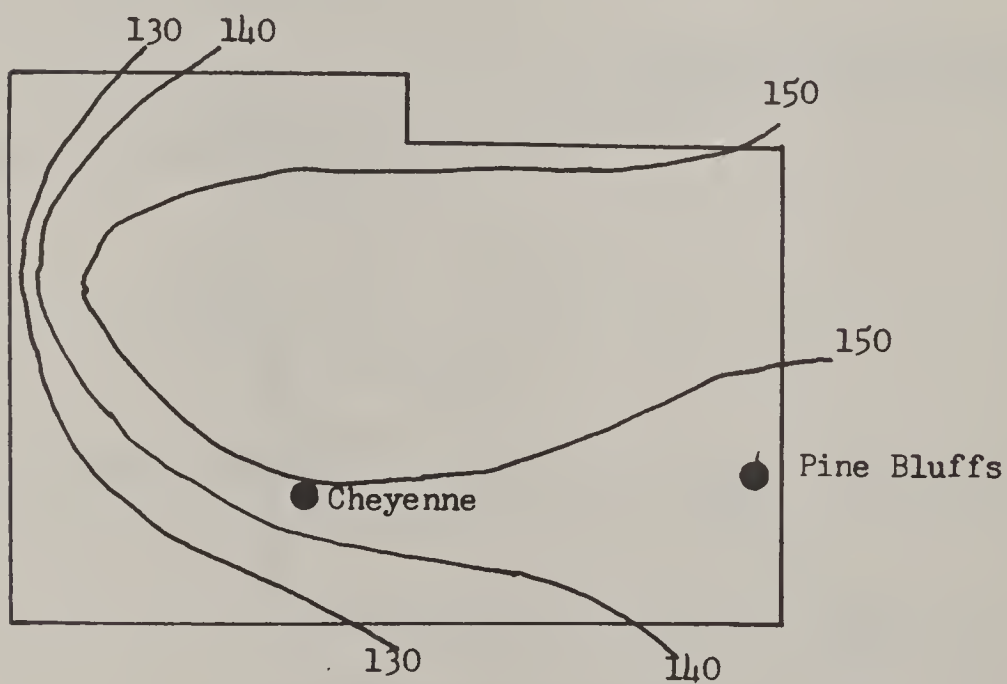
Laramie County - Mean Annual Temperature



Laramie County - Mean Annual Precipitation



Laramie County - Average Annual 32°
Freeze-Free Days



Laramie County - Average Annual 28°
Freeze-Free Days

VI SOILS

The soils are one of the most important natural resources in Laramie County. They are quite variable, and an understanding of their nature and characteristics is essential to their proper use and management as well as to the use and development of related resources.

Many of the soils in the eastern part of the county are deep and moderately deep, well drained, moderately coarse and medium textured with good permeability, and are nearly level to gently sloping. These soils are well suited for irrigated crops, and the extent of irrigation is limited only by the lack of available water. Dryland crops are well suited to these soils when grown under a system which includes alternate crops and summer fallow, wind stripcropping, and stubble mulch. These soils are also well suited for range, windbreaks, wildlife habitat, and many recreational and urban uses.

The western part of the county has cooler temperatures and shorter growing seasons, and farming on the best soils is limited primarily to hay production. However, the deep and moderately deep soils are well suited for range, windbreaks, wildlife habitat, and many recreational and urban uses.

The steep soils and the shallow soils in all parts of the county have severe limitations for most uses. They are best suited for range and wildlife habitat but can be used for some recreational and urban uses if the limitations are given the proper consideration in planning and development.

The general soil map shows the location and extent of 12 soil association areas. A soil association consists of two or more soils

VI - Cont.

occurring together in a characteristic geographic pattern. The soils in an association may be similar or have very contrasting characteristics, but the pattern of their occurrence is fairly uniform. An association is usually named from the major soil components even though it contains several different soils. The major soil of one association may occur in other associations but to a different extent and in a different pattern.

Included with the general soil map is a legend and brief description of each soil association.

A general soil map with the descriptions of the soil association areas is useful in community or area-wide planning or in selecting broad areas for a particular use. They are not detailed enough for farm or ranch planning or selecting small tracts for intensive use.

An interpretive table showing the general limitations and hazards of the major soils in each association for several different uses is included with the map and legend.

GENERAL SOIL ASSOCIATIONS
Laramie County, Wyoming

NEARLY LEVEL, WELL TO POORLY DRAINED SOILS OF THE FLOODPLAINS

1. Haverson-Egbert-Gardner Association

This association consists of deep and moderately deep, well to poorly drained, sandy, loamy, and clayey soils on nearly level floodplains. Some shallow soils over gravel are included. Water spreading systems are common and much hay is produced on these soils.

NEARLY LEVEL TO MODERATELY STEEP, WELL DRAINED SOILS OF THE ALLUVIAL
FANS AND FOOTSLOPES

2. Vetat Association

This association consists of deep and moderately deep, well drained, moderately coarse and medium textured soils on nearly level to gently sloping fans and shallow drainageways. It is used for irrigated crops, dryland crops, and range.

3. Mitchell-Keota-Epping Association

This association consists of deep, well drained, medium textured, calcareous soils on nearly level to sloping fans and footslopes; moderately deep soils on gently sloping to sloping fans and uplands; and shallow soils underlain by Brule siltstone on sloping to moderately steep uplands. Most of this association is used for rangeland.

NEARLY LEVEL TO MODERATELY STEEP, WELL DRAINED SOILS OF THE HIGH TERRACES

4. Ascalon-Altvan Association

This association consists of deep and moderately deep, well drained, loamy and gravelly loamy soils on nearly level to gently

GENERAL SOIL ASSOCIATIONS - Cont.

sloping old, high terraces. Included are some areas of deep loamy soils developing in loess. A few areas of soils developing in weathered sandstone on moderately steep slopes are also included. These soils are used extensively for dry farming and a few areas are irrigated from wells.

5. Unnamed Association

This association consists of deep, moderately deep, and shallow, well drained, loamy and gravelly loamy soils on gently sloping to moderately steep old, high terraces in areas where the mean annual soil temperatures are less than 47°F. Included are several areas of alluvial soils along the small streams which cross the soil association area. A few areas of soils developing in weathered sandstone are also included. Most of the area is used for rangeland, but the narrow areas of alluvial soils are used for the production of hay.

6. Dix-Tassel Association

This association consists of shallow, well drained soils developing in gravelly outwash material and weathered sandstone on sloping to moderately steep, highly dissected old, high terraces and associated uplands. Included are some deep and moderately deep soils and some steep terrace breaks and uplands. Most of this association is used for rangeland, but some of the deeper soils on the smoother slopes are dry farmed.

GENTLE SLOPING TO STEEP, WELL DRAINED SOILS OF THE UPLANDS

7. Rosebud-Satanta-Trelona Association

This association consists of deep, moderately deep, and shallow

GENERAL SOIL ASSOCIATIONS - Cont.

well drained, moderately coarse and medium textured soils on gently sloping to moderately steep uplands. Included are a few areas of gravelly soils and a few steep breaks. This association is used for dry farming and rangeland.

8. Tassel-Rockland Association

This association consists of shallow, well drained, moderately coarse textured soils and numerous outcrops of sandstone on moderately steep to steep uplands. Included are the steep escarpments south and east of Pine Bluffs and a few areas of moderately deep soils on the smoother slopes. Also included are some areas of deep soils developing in colluvial and local alluvial deposits at the base of the steeper slopes and escarpments. This association is used for rangeland.

9. Epping-Rockland Association

This association consists of shallow, well drained, medium textured, calcareous soils and numerous exposures of Brule siltstone on sloping to moderately steep uplands. Included are a few areas of deep and moderately deep soils. This association is used for rangeland.

SOILS OF THE FOOTHILLS

10. Rough, Broken Land

This association consists of shallow and very shallow soils with many exposures of granite, limestone, and sandstone on strongly dissected uplands. A few areas of alluvial soils occupy the narrow bottomlands along the major drainageways. Most of the area is used as rangeland.

GENERAL SOIL ASSOCIATIONS - Cont.

11. Vedauwoo-Rockland Association

This association consists of shallow, well drained, gravelly soils and numerous granite outcrops on moderately steep, highly dissected uplands. It is used for rangeland.

SOILS OF THE MOUNTAINS

12. Rockland-Vedauwoo Association

This association consists of many granite outcrops and disintegrating boulders and small areas of shallow and very shallow, gravelly soils on steep slopes. The vegetation consists of grass and scattered pines with denser patches of timber along canyons and drainages. This association is used for rangeland and recreational purposes.

LIMITATIONS AND HAZARDS^{1/}

Uses	General Soil Areas											
	1	2	3	4	5	6	7	8	9	10	11	12
Agriculture Irrigated Farming Dry Farming Range Woodland	a-b	a-b	b-c	a-b	b-c	c	b-c	c	c	c	c	c
	a-b	a-b	b-c	a-b	b-c	c	b-c	c	c	c	c	c
	a	a	a-b	a	a	b	a-b	b-c	b-c	c	b-c	c
	a	b	b-c	b	b-c	c	b-c	c	c	b-c	b-c	b-c
Recreational Cottage and Utility Buildings Campsites Picnic Areas Intensive Play Areas Paths and Trails Golf Fairways	b-c	a-b	b	a-b	a-b	b-c	a-b	c	b-c	c	c	c
	b-c	a-b	b-c	a-b	a-b	b-c	a-b	c	b-c	c	c	c
	b-c	a-b	b-c	a-b	a-b	b-c	a-b	c	b-c	c	c	c
	b-c	a-b	b-c	a-b	a-b	c	a-b	c	c	c	c	c
	b-c	a	a-b	a	a	b-c	a-b	b-c	b-c	b-c	b-c	c
	b-c	a	a-b	a	a-b	c	a-b	c	c	c	c	c
Urban Residential with Public Sewers Residential without Public Sewers Light Industrial and Commercial Highways and Streets Source of Sand and Gravel ^{2/}	c	a	b-c	a-b	a-b	c	a-b	c	c	c	c	c
	c	a	b-c	a-c	a-c	c	b-c	c	c	c	c	c
	c	a	b-c	a-b	a-b	c	b	c	c	c	c	c
	b-c	a-b	b-c	a-b	a-b	c	b	c	c	c	c	c
	c	c	c	a-c	a-c	a-c	c	c	c	c	c	c

^{1/}To be used as a guide for generalized resource planning. Detailed plans and recommendations should be based on a detailed soil survey which must be supplemented by on-site investigations for planning individual sites to determine the specific location of sewage disposal systems, homesites, roads, streets, etc.

a - slight - Relatively free of limitations or limitations are easily overcome.

b - moderate - Limitations must be recognized but can be overcome with good management and careful design.

c - severe - Limitations are difficult or impossible to overcome.

^{2/}Source of sand and gravel

a - Good source

b - Fair source

c - Poor source or not present

VII WATER RESOURCES

Laramie County is drained by small eastward-flowing streams. Chugwater, Bear and Horse Creeks are part of the North Platte watershed, and Lodgepole, Crow, and Lone Tree Creeks are part of the South Platte watershed. Horse and Chugwater Creeks are the only streams that are perennial throughout their course in the county. Crow Creek at one time was perennial from the mountains to the vicinity of Arcola, Wyoming, but the channel through the Cheyenne well field is now intermittent. Other streams in the area are intermittent, alternately gaining water from and losing water to the ground-water reservoir.

Boxelder Creek Watershed Project (PL 566) heads in the southwest corner of the county and encompasses about 16,000 acres. No structures are planned in Wyoming. Four other watershed projects are possible in the county: Chugwater, Crow, and Muddy Creeks and Chevington Draw. Bear Creek may also be a possibility.

Chugwater Creek produces annual damages to Colo-Southern R.R. and CB&Q embankments, county roads, and bridges and meadow lands. Also on occasions has caused flooding to the village of Chugwater, Platte County, Wyoming.

Crow Creek, due to change of water management by the City of Cheyenne, may present problems in the future. Over 8,000 CFS (cubic feet per second) flow was recorded in 1929, just below the city, causing excessive flood damage to buildings and Union Pacific Railroad located in the city.

VII - Cont.

The other two possible projects have caused flood damage in the past to croplands, haylands, and the town of Pine Bluffs.

There are no large natural impoundments of water, but there are several man-made lakes, Granite and Crystal Lakes and North Crow Reservoir; all are a part of Cheyenne's municipal water system. There are a number of smaller ponds used as stockwater and private fisheries.

It should be noted here that future impoundments of water are subject to prior water rights and must obtain prior approval to construct from Wyoming State Engineer's office.

Due to the present surface water rights, the greatest potential of water development in the county is underground water. During the first three months of 1969, 12 wells were developed yielding 800 to 1800 gallons of water per minute. The approximate area of development is located in the southeast quarter of the county. Most of the wells developed are using circular sprinklers for irrigation.

The most extensive aquifers in the county are the White River formation of Oligocene age, which is as much as 500 feet thick and consists predominantly of siltstone; the Arikaree Formation of Miocene age, which consists of as much as 450 feet of very fine grained to fine grained sandstone; and the Ogallala Formation of Miocene and Pliocene age, which consists of as much as 330 feet of gravel, sand, silt, and some cobbles and boulders. These formations are capable of yielding large supplies of water locally. Terrace deposits of Quaternary age yield moderate to large supplies of water in the southeastern

VII - Cont.

and northeastern parts of the county.

In the Federal well field west of Cheyenne, large yields of water from the White River Formation are obtained from gravel lenses. In the eastern part of the county near Pine Bluffs, large yields are obtained from openings in the siltstone of the White River. Previous investigators reported that the large yields were obtained in areas where the formation is fractured and fissured. The authors of this report believe that the large yields from siltstone in the White River are from pipes, sometimes called natural tunnels, rather than from fractures or fissures.

Little is known about the water-bearing properties of the pre-Tertiary aquifers in the county, but water derived from the pre-Tertiary formations would probably be of poor quality, except in the vicinity of the outcrop near the western edge of the county.

Precipitation is the principal source of recharge to the groundwater reservoirs. About five percent of the annual precipitation, or about 108,400 acre-feet per year, is estimated to be recharge. Only a small amount of additional recharge is from streams. The general movement of ground water is eastward, and the average gradient of the water table is about 40 feet per mile.

The total amount of ground water pumped from wells in Laramie County during 1964 is estimated to be 28,000 acre-feet, about 6,000 acre-feet was used for municipal and industrial supplies; about 17,000 acre-feet was used for irrigation in the Pine Bluffs-Carpenter area, and about 5,000 acre-feet was used for other purposes.

VII - Cont.

The balance of the recharge (80,400 acre-feet) is estimated to be discharged by the following means: 20 percent by underflow, 20 percent by streamflow, and 60 percent by evapo-transpiration.

The coefficient of transmissibility of the Ogallala Formation, determined by averaging data from 28 pumping tests made in the Cheyenne municipal well field is about 16,000 gallons per day per foot. However, this figure is an average of the more permeable zones, and the average coefficient of transmissibility of the Ogallala in the county is probably much less because of the heterogeneous character of the formation. A coefficient of transmissibility of 3,800 gallons per day per foot was calculated for the Ogallala, in the same vicinity that the pumping tests were made, by using a regional method of analysis. Although the average transmissibility of the Ogallala is considered to be low, large yields are obtained from gravel stringers and lenses in the formation. The maximum perennial yield from the Cheyenne well field is estimated to be about 1.6 billion gallons per year.

Moderate to large yields of water can be obtained in the north-central part of the county where the saturated thickness of the Arikaree Formation, or combined Arikaree and Ogallala Formations, is 200 feet or more.

Ground water has been developed throughout the county, but development has been intensive only in the Cheyenne municipal well fields near Cheyenne and Federal and in the Pine Bluffs lowland. The water

VII - Cont.

level has been lowered as much as 40 feet in the Cheyenne well field and somewhat less in the Federal well field.

Interference between wells occurs in the Pine Bluffs lowland during the summer, when pumping is at a maximum, and additional development will aggravate the interference. At the present rate of development, no permanent lowering of the water table is likely to occur in this area in the near future; however, a great amount of additional development could possibly cause permanent lowering of the water table.

The chemical quality of water from the principal aquifers and streams is generally suitable for domestic, irrigation, and industrial uses. The water is predominantly of a calcium bicarbonate type and is very hard; its dissolved-solids concentration ranges from 167 to 688 parts per million. The chemical composition of water from the White River, Arikaree, and Ogallala Formations and from the alluvium is generally similar, although small local differences are apparent within the formation. Comparison of older data with recent data indicates that water from the alluvium in the Pine Bluffs vicinity has increased in mineralization as a result of irrigation.

For more specific information regarding underground water, consult Geology and Ground-Water Resources of Laramie County, Wyoming by Marlin E. Lowry and Marvin A Crist, Water-Supply Paper 1834 published 1967.

VIII-A WILDLIFE

Much has been said about the "balance of nature" that once existed and of the destruction of this balance by man. Actually, there is no static balance in nature. There is a dynamic balance or relationship that changes as the conditions of soil, climate, and other factors are altered by the presence of plants, animals, and the activities of man.

There are many reports about all the wildlife that existed when man first came West and to Laramie County. In many places there is now more wildlife than when the first settlers arrived. With the advent of improved farm and ranch management, more food, cover, and water has actually increased some of the wildlife populations.

Antelope and deer are quite abundant throughout the county. Deer populations could be greater due to the ample winter browse available in most areas. Proper grazing and installation of stock water on the range has also improved the habitat for deer and antelope.

Elk are found on the western edge of the county. Their presence is due to the Wyoming Game & Fish Commission's transplant program. The habitat is not the best but is sufficient to support some elk and hold them in the area.

There are a number of smaller animals found in the county. Cottontails and jack rabbits are found throughout the area. Other animals that are common in the area and are a part of the total

VIII-A - Cont.

environment are: namely coyotes, badger, skunk, bobcat, prairie dog, red and kit fox, various ground squirrels, tree squirrel, chipmunks, various field mice, and kangaroo rats.

Pheasants are found in the eastern portion of the county. Climate (late spring snows) is a big factor in the numbers of pheasants; however, development of good food, water, and cover would help increase the population to some extent. Other upland game birds are scarce and only the grouse could be mentioned as being found in the county. A number of species of ducks and geese have used Laramie County's waters; however, the habitat and the fact that the county is not on the main flyway limit the number of stopovers. Mallards and teal are the main locals found in the area. Due to the few perennial streams and the lack of large bodies of water, the development of habitat is limited.

The lack of good streams also affect the numbers of beavers, muskrat, and other water animals in the county.

Fisheries are also affected by the lack of perennial streams in the county. Most of the present ponds and streams being fished are located along the east front range of the Laramie Mountains.

Development of new fishing waters are limited. New ponds that are being planned have to respect prior water rights. Some streams, with a change of management, could be accessible in the future. At present, the demand for fishing is much greater than the fisheries available.

VIII-A - Cont.

According to the Wyoming Audubon Society, approximately 200 birds can be observed in the county: namely, 50 migrants, 100 summer residents, 45 year-round residents and ten winter visitors. The 2,000-foot rise in elevation from east to west attracts many birds ranging from a plains, shore, and mountain species. Much can be done to enhance the habitat for more birds to reside in the county. Both urban and rural people can establish tree and shrub plantings, provide food, and install water facilities to bring about a better habitat.

VIII-B LARAMIE COUNTY RECREATION AREAS

PRIVATE

PUBLIC

Cabins:

- (1) East Station Camp
- (2) Leonard Ross-Burns
- (3) Cabins-in-the-Pines
- (4) Hyde-Merritt
- (5) Harriman Heights

- (6) Granite Canyon Cabin Site

Camping:

- (7) Husky Terminal
- (8) Connelly Trailer Park
- (9) Trailer Parks of America
- (10) Holiday Inn

- (11) Little America
- (12) Hynds Lodge (Boy Scouts)

Field Sports Areas:

- (13) Albin Gun Club
- (14) Cheyenne Gun Club
- (15) Pistol Range
- (16) Cheyenne Trap Club
- (17) Warren Trap Club
- (18) Skeet Shooting - Burns
- (19) Granite Archery Range

- (20) Albin Baseball Park
- (21) Pioneer Ball Park
- (22) Frontier Days Rodeo Grounds
- (23) Babe Ruth Baseball Park
- (24) Little League Baseball Park
- (25) Lions Park
- (26) Pine Bluffs Baseball Park

Fishing Waters:

- (27) Hirsig Ranch - Iron Mountain
- (28) Wisroth Lake - Pine Bluffs
- (29) Hyde Merritt

- (30) Crystal Lake
- (31) Granite Lake
- (32) Francis E. Warren AFB Lake
- (33) North Crow Reservoir
- (34) Lions Park

Golf Courses:

- (35) Cheyenne Country Club

- (36) Francis E. Warren AFB
- (37) Municipal Golf Course
- (38) Prairieview Golf Course

VIII-B - Cont.

PRIVATE

PUBLIC

Hunting Areas:

- (39) Dolan Duck Camp
- (40) Wyoming Hereford Ranch
- (41) Hyde Merritt

Natural, Scenic, and Historical Sites:

- | | |
|-----------------------------|--|
| (42) Wyoming Hereford Ranch | (43) Capitol Building |
| | (44) Gang Plank |
| | (45) St. Mark's Episcopal Church |
| | (46) Esther Hobart Morris Statue
(same as 42) |
| | (47) Robert Burns Memorial |
| | (48) Jim Baker's Trading Post |
| | (49) Big Boy Locomotive |
| | (50) Cheyenne-Ft. Laramie-Deadwood Trail |
| | (51) Pole Creek Ranch |
| | (52) Little Bear Monument |
| | (53) Old Texas Trail |
| | (54) First Missile Site |
| | (55) Iron Mountain Quarry and Mine |
| | (56) Ft. Francis E. Warren |
| | (57) State Museum |
| | (58) Granite Canyon Quarry |
| | (59) Camp Walbach |

Riding Stables:

- | | |
|-------------------------------------|------------------------------------|
| (60) Sodergreen Horsemanship School | (64) Francis E. Warren AFB Stables |
| (61) Saddle Tramps Riding Club | |
| (62) Hop Anderson Ranch | |
| (63) Yellowstone Riding Stables | |
| (65) Sunset West Riding Stables | |

Shooting Preserves:

None in County

VIII-B - Cont.

PRIVATE

PUBLIC

Vacation Farms or Ranches:

- (66) Remount Ranch
- (67) Cheyenne Pass Boys Ranch

Water Sports Area:

- | | |
|----------------|------------------------|
| (68) Boat Club | (69) Sloan's Lake |
| | (70) Granite Reservoir |
| | (71) Crystal Lake |

Winter Sports Areas:

- (72) Lions Park (ice skating)
- (73) Holiday Park (ice skating)
- (74) United Nations Park (ice skating)

VIII-B RECREATION RESOURCE

Clean air and plenty of elbow room coupled with climate and varied topography makes Laramie County most attractive for outdoor recreation for it is not uncommon to see golfers on the fairways during the winter months.

Recreation evolves around all our natural resources. Laramie County has most of the resources except deep winter snows for winter sports and ample fishing water. Good communication lines are also an asset and the county is bisected North and South and East and West by main interstate highways.

The western half of the county is primarily rangeland with mountainous terrain, providing a true western atmosphere. Potential for most any type of recreation is available except winter sports.

Tourism is greatest during the summer months, and additional recreational development could be developed and create an impact on the county's economy.

The City of Cheyenne is especially proud of its supervised summer recreation program. The program is co-sponsored by the City and Cheyenne School System.

Businessmen support and encourage participation in sports by sponsoring teams. Cheyenne has Little Leagues, a Babe Ruth league, and an American Legion team. Numerous bowling leagues, basketball leagues, tennis clubs, country clubs, YMCA programs, and other organizations offer the individual unlimited opportunities for active participation.

VIII-B - Cont.

Annual Sporting Events Include:

Cheyenne Frontier Days Rodeo and celebration held the last full week in July.

Cheyenne Open Golf Tournament - August

Cheyenne Trapshooting Tournament - state-wide competition

Soapbox Derby

CHEYENNE PUBLIC AND PRIVATE RECREATION FACILITIES (Not all are listed on map)

		<u>Public</u>	<u>Private</u>
Amusement park	1	1	
Public parks	6	6	
Golf courses (18 holes)	3	1	2
(9 holes)	1	1	
Tennis courts	15	13	2
Baseball fields	3	3	
numerous practice fields			
Basketball courts	36	Indoor in schools with 6 outdoor in parks	
Football fields	3	3	
Bowling alleys	3	3	
Lakes open to boats	3	3	
Fishing lakes	2	2	
Trapshooting	1		1
Swimming pools (4 indoor)	15	3 (2 indoor)	12
Softball fields	3	3	
Horseshoe court, lighted	1	1	
Miniature golf	1	1	

VIII-B - Cont.

RECREATIONAL OPPORTUNITIES EXISTING CLOSE TO CHEYENNE

Fishing - Hunting - Camping - Boating - Water skiing - Swimming

Mountain climbing - Snow skiing (Mountain Slope equipped with lifts)

Ice skating - Hiking

SPECTATOR SPORTS AVAILABLE IN CHEYENNE

Rodeos

Baseball

Softball

Football

Basketball

Trapshooting

Auto racing

Swimming meets

Wrestling

IX MINERAL RESOURCES

Mining plays an important part in the economy of the county, creating 2.9 million dollars of sales during 1967. Over 600,000 - 42 gallon barrels of oil; 623,000 tons of crushed limestone and rock; and 173,000 short tons of sand and gravel were mined during 1967.

Mineral not presently being produced in any quantity but found in the county:

<u>MINERAL</u>	<u>SOURCE</u>
Cement Rock	Iron Mountain & Bradley
Feldspar	Federal
Flourite	Federal
Magnetite	Near Albany County Line
Copper, Gold, Silver ore	Silver Crown District
Hematite, associated copper and Zinc	22 miles west of Cheyenne
Pyrite	Silver Crown, Hecla and Granite Canyon
Pyrrhotite in Granite	Silver Crown
Lead, as associated with Cerusite Galena, Gold and Silver	Silver Crown

Manganese, Uranium, Cadmium, Cobalt, Lithium, Magnesium, Mercury, Molybdenum, Nickel, Palladium, Tin, Vanadium, and Zinc have been reported as traces.

X HUMAN RESOURCES AND INDUSTRY

On April 1, 1960 the population of Laramie County was listed as 60,149. By July 1, 1966, it had dropped to 59,500.

MAJOR INDUSTRIES IN LARAMIE COUNTY: Agriculture consists mainly of sheep, cattle, wool, hay, wheat, oats, barley, and potatoes. As Cheyenne is the State Capitol and main city in the county, nearly 5,400 persons are employed by state, Federal and local government, including such establishments as Warren Air Force Base and the Veterans Hospital. In the early days of Cheyenne, The railroad industry predominated but now only accounts for around 1,550 workers. Retail trade is important in the area, accounting for more than 3,300 workers. Manufacturing and construction are also important industries with over 1,000 employed in each group.

Industry Group <u>4/</u>	Average Yearly Employment <u>1/1/</u>	Usual Starting Wage at Entry Level	Usual Work Week	Seasonal Variation High	Variation Low
Agriculture	419	\$125-\$150 B & R		July	Sept-Apr
Mining <u>2/</u>	113	\$2.20 hr.	40 hr.	July-Dec	Jan-June
Construction	1,397	\$2.22-\$4.00 hr.	40 hrs.	Apr-Dec	Jan-Mar
Manufacturing	1,064	\$1.50-\$2.50 hr.	40 hrs.	None	
Transportation	464	\$1.75-\$3.00 hr.	40 hrs.	May-Dec	Jan-Apr
Utilities	710	\$1.40-\$2.75 hr.	40 hrs.	None	
Wholesale Trade	722	\$1.25 hr.	40 hrs.	None	
Retail Trade	3,368	\$40-\$50 week	40 hrs.	May-Dec	Jan-Apr
Finance	948	\$1.25-\$1.75 hr.	40 hrs.	None	
Service	1,331	\$1.20 hr.	44-48 hrs.	June-Dec	Jan-May
Professional	291	Varies	40 hrs.	None	
Government					
Federal	2,083	\$290 month	40 hrs.	None	
State & Local	3,357	\$235 month	40 hrs.	None	
Railroad	1,548	\$2.20 hr.	40 hrs.	Apr-Dec	Jan-Mar
Miscellaneous <u>3/</u>	1,170	\$1.00-\$1.25 hr.	48 hrs.	None	
TOTAL	18,940				

1/ Based on 1965 data

2/ Includes crude petroleum & nat. gas

3/ Includes domestics and non-profit Institutions

4/ Exc. Self-employed and unpaid family workers

X - Cont.

UNIONS: Cheyenne is considered strongly organized. All construction trade unions are AFL-CIO. Wyoming is a "Right to Work" state.

HOUSING: Rental housing is available with a good selection of apartments. Very small apartments rent from \$55 to \$80, larger apartments \$80 to \$120, both plus utilities. Desirable 2-bedroom houses at rentals of \$110 a month. Rooms for single \$25 to \$45 per month. YWCA has accommodations for single women. There is a good selection of houses for sale. Small houses from \$12,000 to \$16,500, larger houses from \$19,000 to \$55,000. In the rural towns, most housing facilities are adequate in number and condition.

A model Cities program has recently been established in Cheyenne. The problem areas have been identified and marked as a target area. Both Model Cities and the Cheyenne Urban Renewal Board are involved in planning projects for these areas in Cheyenne.

The economy of an area is also reflected by the numbers of population classified as poor. As reported by the Office of Economic Opportunity, Laramie County's poverty level is in order that seventy-five percent of the counties in the United States held poor population of lesser magnitude.

Among all the inhabitants of the county the largest proportion, considering race and residence status, were white residents of urban areas.

XI TRANSPORTATION FACILITIES

Laramie County is strategically located for easy access to all modes of transportation, namely the highways, buses, railroads, and air.

There are superb highways through, and in and out of Cheyenne. We are justly proud of the condition of the major highways, as well as the wide expanse of land offering interesting sceneries such as herds of wild animals (deer, antelope, etc.).

The north and south highways are Interstate 25, US 87, and US 85. Interstate 80 and US 30 are major highways going east and west through Laramie County.

Commercial bus service is provided by the Greyhound Bus Lines and the Continental Trailways. These are situated in the heart of downtown Cheyenne. A traveler with very limited stopover might be able to eat and shop a few stores.

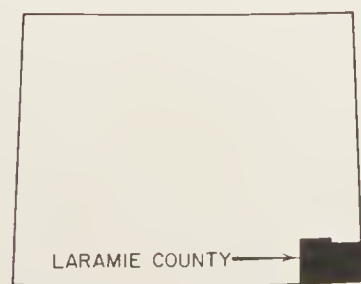
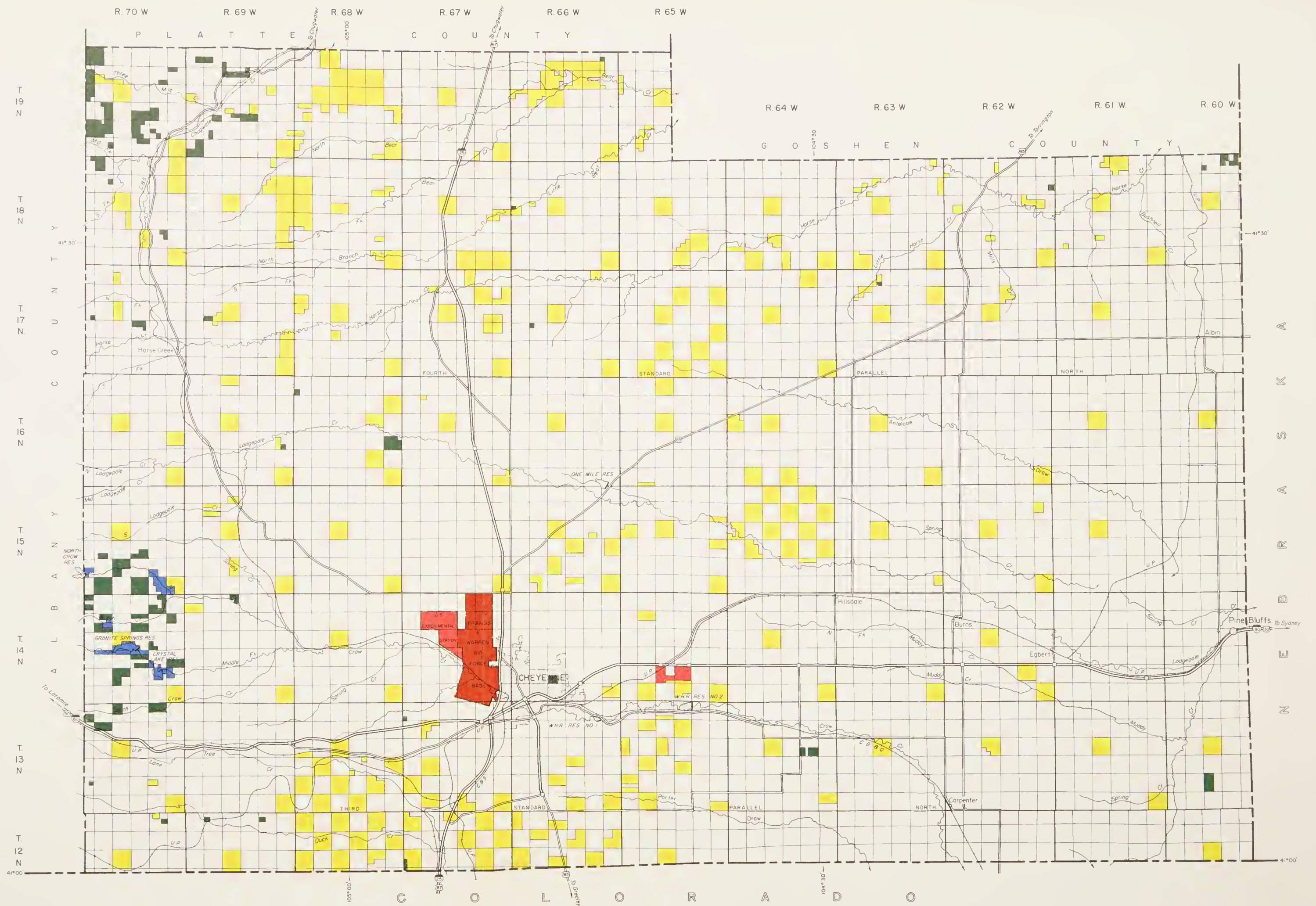
There are several motor freight companies that maintain headquarters and storage facilities in Cheyenne; among them are the Neuman Transit Company, the Ringsby Truck Lines, and the Salt Creek Freightways.

The railroad industry is credited with helping build Laramie County to what it is today. Most of the early families in Cheyenne were making their livelihood directly or indirectly connected with the railroad. There are three companies moving freight and passengers from Laramie County. These are the Colorado and Southern Railway Company, the Chicago, Burlington, and Quincy, and the Union Pacific Railroad Company. Due to the inroad made by other competitive transportation companies,

XI - Cont.

the Union Pacific Railroad is the only passenger station in Cheyenne, situated about fifty feet from the bus terminals.

There are many travelers from and through Cheyenne on the air lines. The Frontier and Western Air Lines are the principal air lines from Cheyenne, not to mention the charter flight service readily available for the asking.



LOCATION MAP

- State Lands
- BLM
- City of Cheyenne

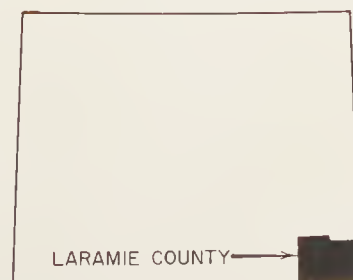
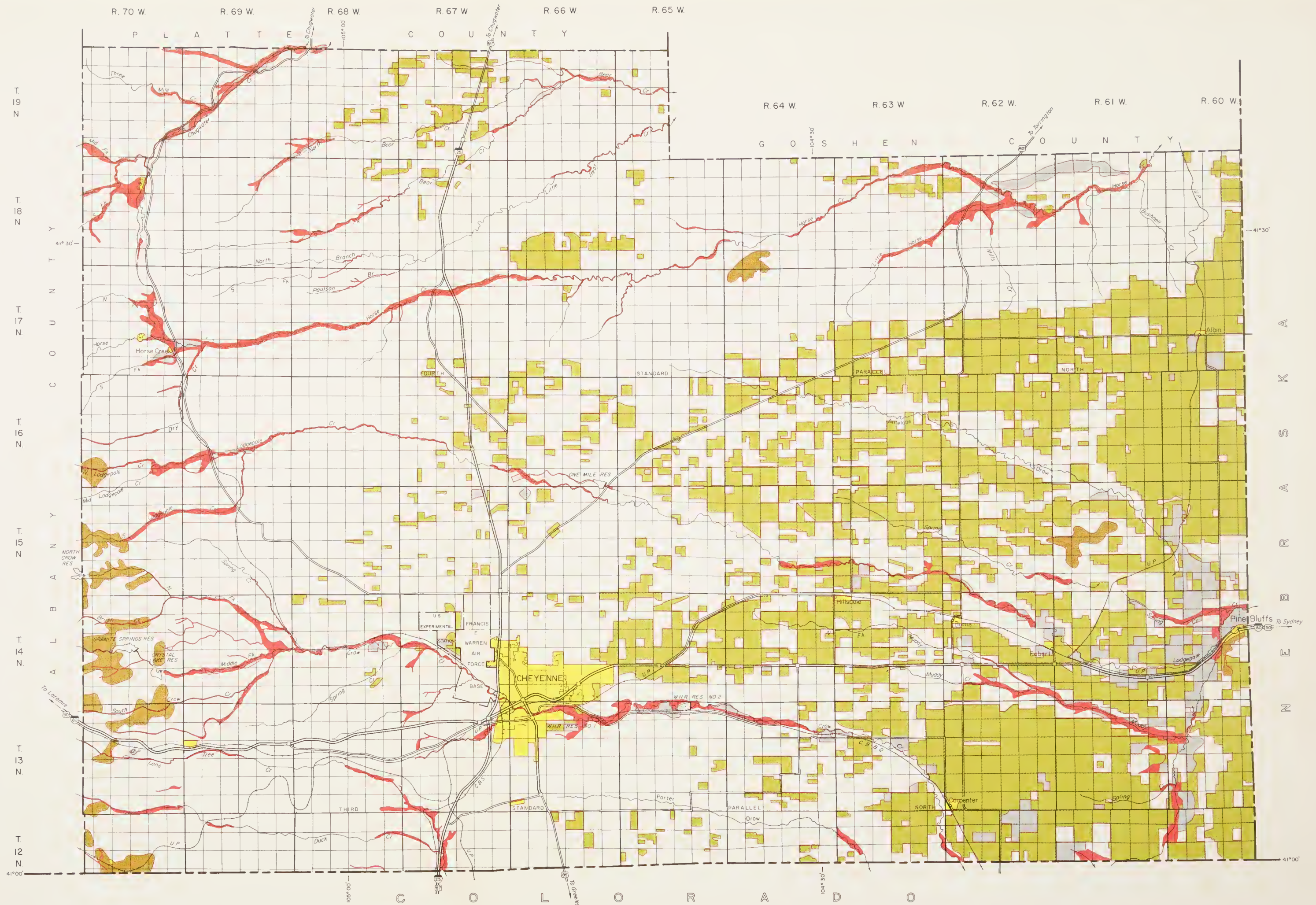
LEGEND

- Experimental Stations, USDA & Wyoming
- Ft. Warren Air Force Base
- Private Lands

LAND OWNERSHIP MAP
LARAMIE COUNTY, WYOMING

JUNE 1969

SCALE IN MILES
0 1 2 3 4 5
SCALE 1:380,160



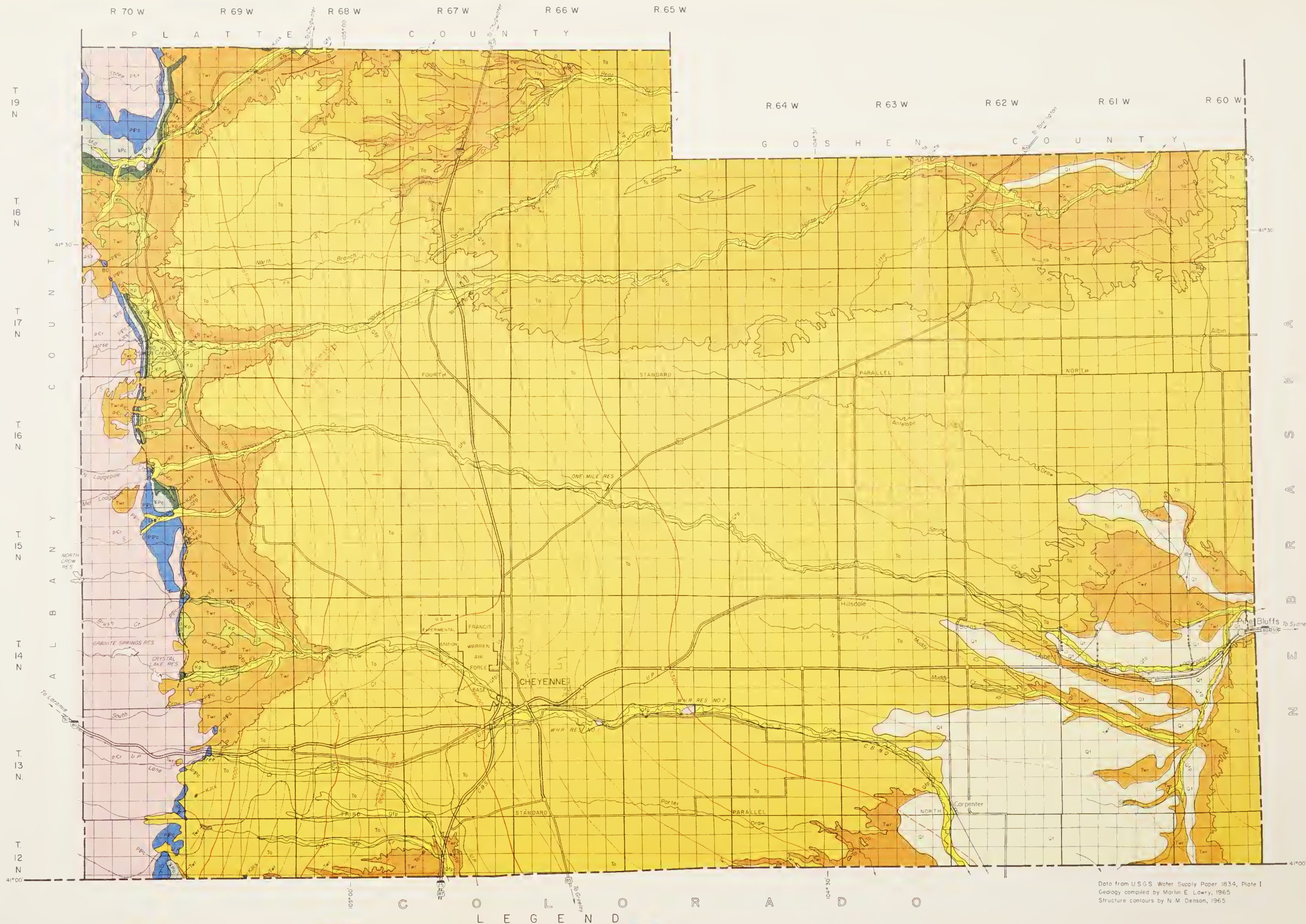
LOCATION MAP

- | | |
|--|--|
|  Dryland Farming |  Towns, Cities and Industry |
|  Irrigated Farming with Management |  Timber Land |
|  Overflow, Wild Flooding and Subirrigated Lands |  Range Land |

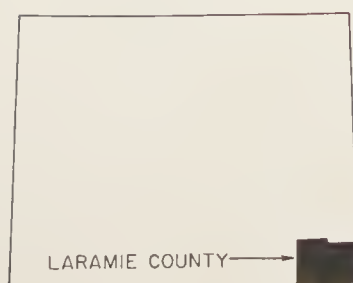
LAND USE MAP LARAMIE COUNTY, WYOMING

JUNE 1969

0 1 2 3 4 5
SCALE IN MILES
SCALE 1:380,160



Data from U.S.G.S. Water Supply Paper 1834, Plate I
Geology compiled by Marlin E. Lowry, 1965
Structure contours by N. M. Denson, 1965



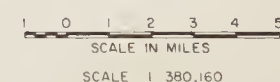
LOCATION MAP

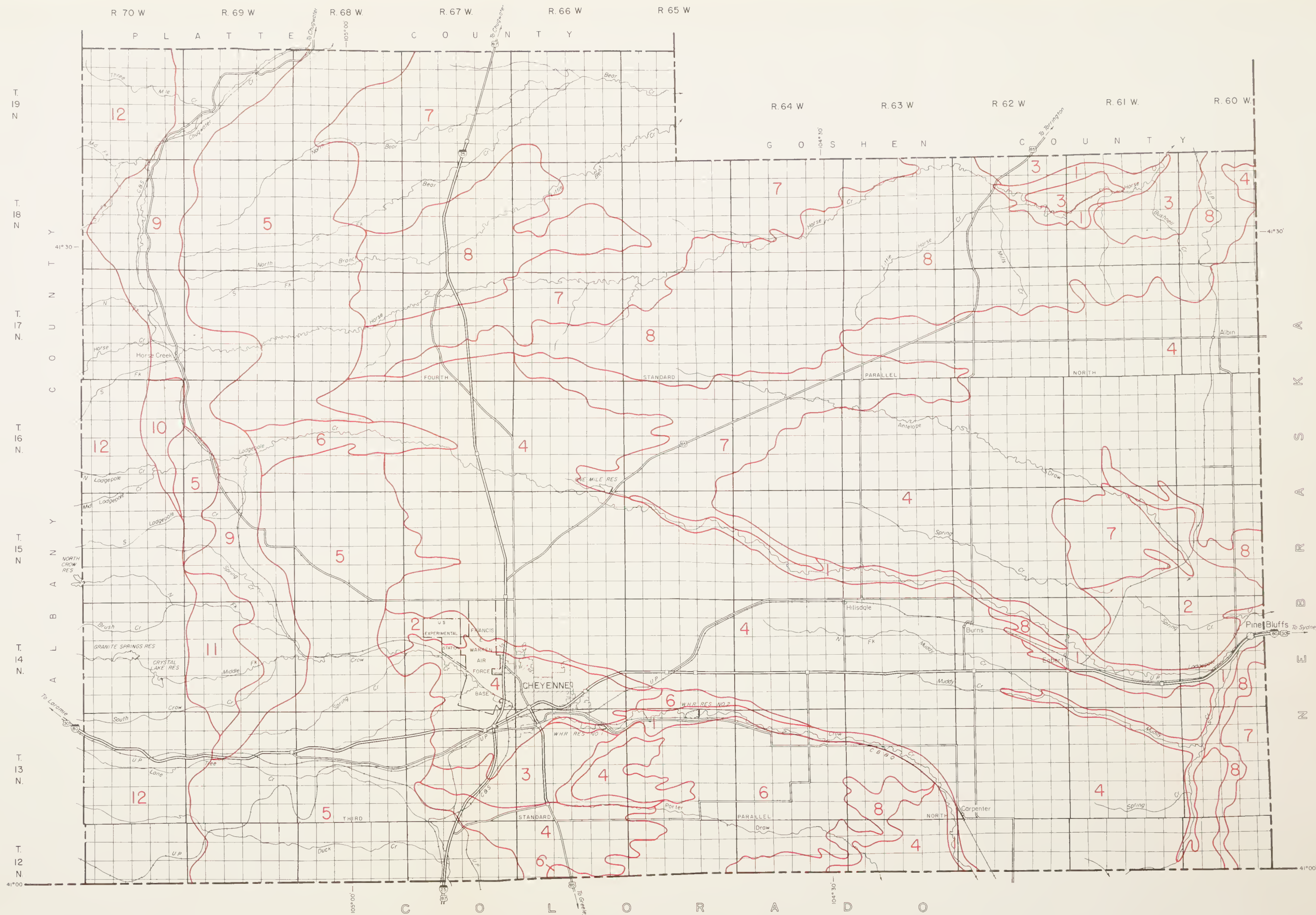
- | | | | | | |
|----------------|-----------------------|----------------|---|-------------------|-------------------------------|
| Q ₁ | Flood-plain Deposits | K ₁ | Pierre Shale | P ₁ C | Cosper Formation |
| Q ₂ | Terrace Deposits | K ₂ | Niobrara Formation | p ₁ Cr | Igneous and Metamorphic Rocks |
| T ₁ | Ogallala Formation | K ₃ | Frontier Formation, Mowry Shale, Newcastle Sandstone, and Skull Creek Shale | --- | Contact |
| T ₂ | Arikaree Formation | K ₄ | Cloverly, Morrison, and Sundance Formations | --- | Fault |
| T ₃ | White River Formation | K ₅ | Chugwater and Goose Egg Formations | --- | Thrust Fault |
| | | | | --- | Location of Section |
| | | | | ○ | Test Hole |

- | | |
|-----|--|
| --- | Concealed Anticlinol Axis on Newcastle Sandstone |
| --- | Concealed Synclinal Axis on Newcastle Sandstone |
| --- | Structure Contours |
| --- | Strike and Dip of Beds |
| --- | Strike and Dip of Overturned Beds |

GEOLOGIC MAP LARAMIE COUNTY, WYOMING

JUNE 1969





LEGEND

NEARLY LEVEL, WELL TO POORLY DRAINED SOILS OF THE FLOODPLAINS

1. Haverson-Egbert-Gardner Association

NEARLY LEVEL TO MODERATELY STEEP, WELL DRAINED SOILS OF THE ALLUVIAL FANS AND FOOTSLOPES

2. Vetat Association
3. Mitchell-Keoto-Epping Association

NEARLY LEVEL TO MODERATELY STEEP, WELL DRAINED SOILS OF THE HIGH TERRACES

4. Ascolon-Altvon Association
5. Unnamed Association
6. Dix-Tassel Association

GENTLY SLOPING TO STEEP, WELL DRAINED SOILS OF THE UPLANDS

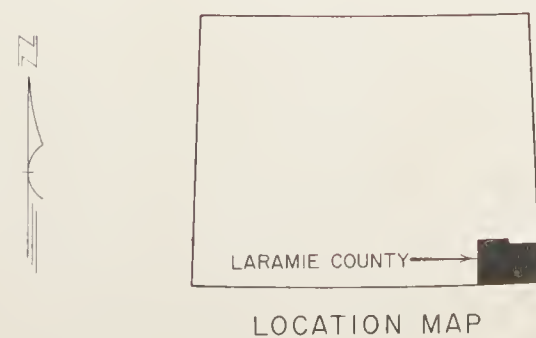
7. Rosebud-Satanta-Trelona Association
8. Tassel-Rockland Association
9. Epping-Rockland Association

SOILS OF THE FOOTHILLS

10. Rough broken land
11. Vedauwoo-Rockland Association

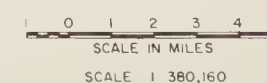
SOILS OF THE MOUNTAINS

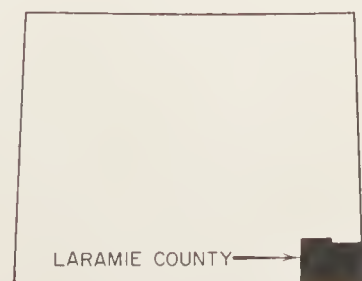
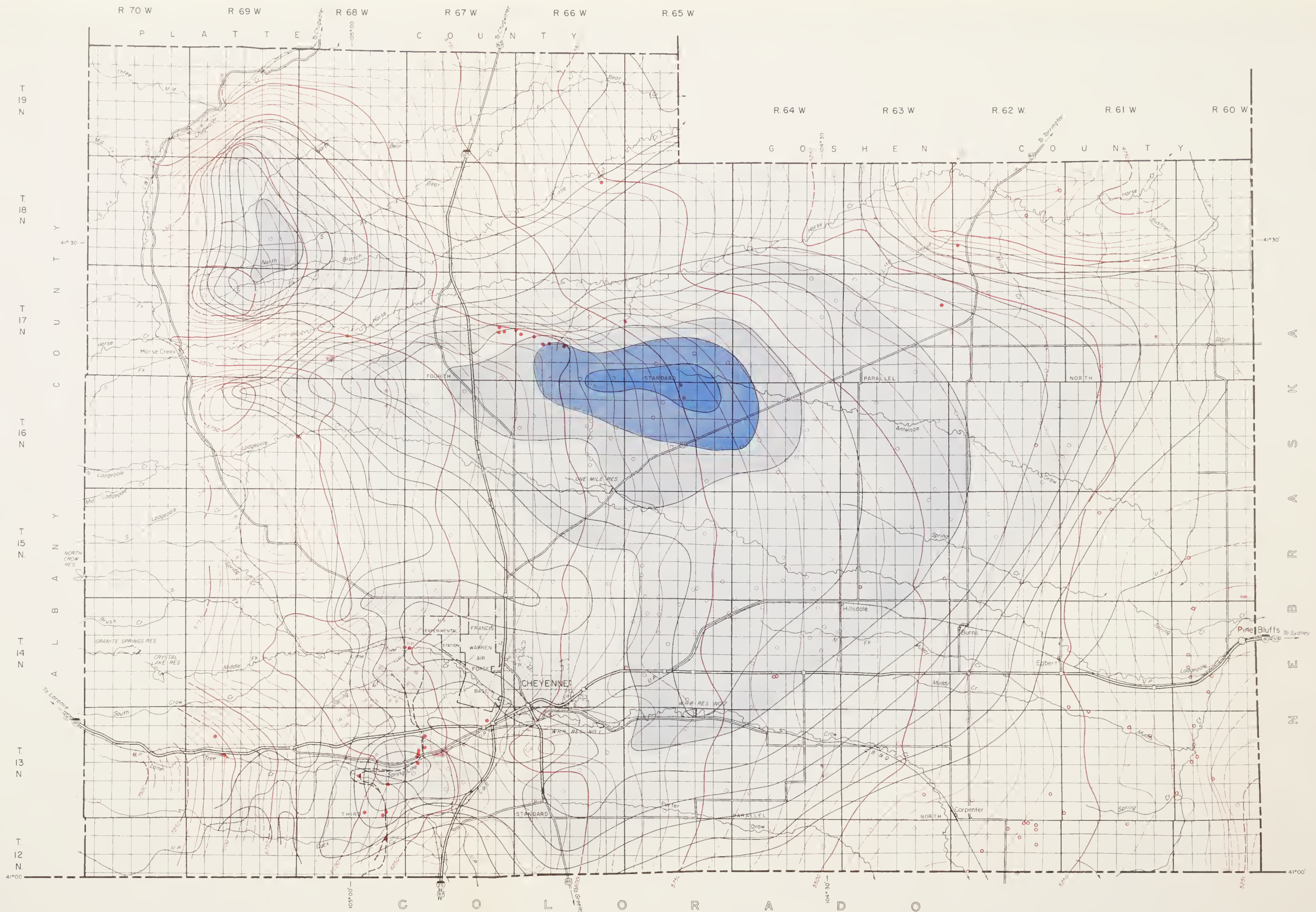
12. Rockland-Vedauwoo Association



GENERAL SOIL MAP LARAMIE COUNTY, WYOMING

JUNE 1969





LOCATION MAP

WELLS

- Domestic, stock, or unused
- Flowing
- Irrigation
- Public supply
- Industrial

LEGEND

0 - 50	200 - 250	400 - 450
50 - 100	250 - 300	> 450
100 - 150	300 - 350	
150 - 200	350 - 400	

Saturated thickness of Ogallala and Arikaree Formations in feet.

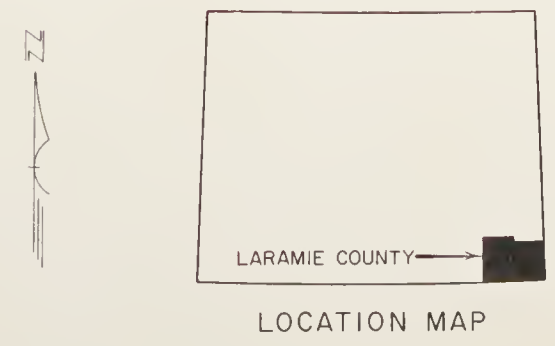
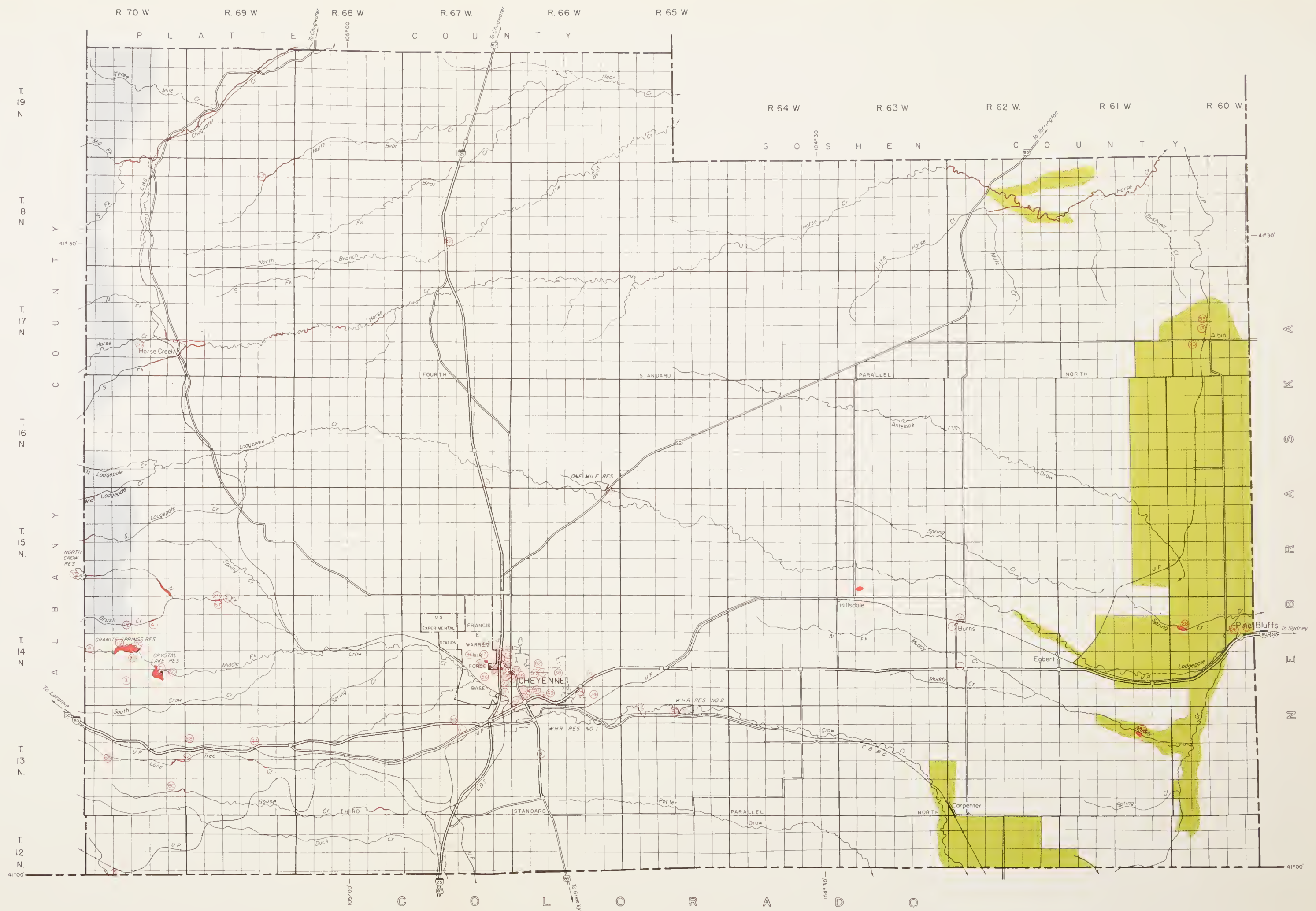
— 5250 — PIEZOMETRIC CONTOUR
Shows the altitude to which water will rise in wells. Dashed where approximately located. Contour interval 50 feet. Datum is mean sea level.

HYDROLOGIC MAP LARAMIE COUNTY, WYOMING

JUNE 1969

SCALE IN MILES
0 1 2 3 4 5
SCALE 1:360,160

- LARAMIE COUNTY RECREATION AREAS**
- | PRIVATE | PUBLIC |
|--|---|
| 1. East Station Camp | 6. Granite Canyon Cabin Site |
| 2. Leonard Ross - Burns | |
| 3. Cabins on the Pines | |
| 4. Hyde-Merritt | |
| 5. Merriman | |
| Camping | |
| 7. Husky Terminal | 11. Little America |
| 8. Connally Trailer Park | 12. Hynds Lodge (Boy Scouts) |
| 9. Trailer Parks of America | |
| 10. Holiday Inn | |
| Field Sports Areas | |
| 13. Albin Gun Club | 19. Granite Archery Range |
| 14. Cheyenne Gun Club | 20. Albin Baseball Park |
| 15. Pistol Range | 21. Pioneer Ball Park |
| 16. Cheyenne Trap Club | 22. Frontier Days Rodeo Grounds |
| 17. Warren Trap Club | 23. Babe Ruth Baseball Park |
| 18. Steel Shooting - Burns | 24. Little League Baseball Park |
| | 25. Lions Park |
| | 26. Pine Bluffs Baseball Park |
| Fishing Waters | |
| 27. Husky Ranch - Iron Mountain | 30. Crystal Lake |
| 28. Wisnath Lake - Pine Bluffs | 31. Granite Lake |
| 29. Hyde-Merritt | 32. Francis E. Warren AFB Lake |
| | 33. North Crow Reservoir |
| | 34. Lions Park |
| Golf Courses | |
| 35. Cheyenne Country Club | 36. Francis E. Warren AFB |
| | 37. Municipal Golf Course |
| | 38. Prairieview Golf Course |
| Hunting Areas | |
| 39. Olan Duck Camp | |
| 40. Wyoming Hereford Ranch | |
| 41. Hyde-Merritt | |
| Natural, Scenic, and Historical Sites | |
| 42. Wyoming Hereford Ranch | 43. Capital Building |
| | 44. Gang Plan |
| | 45. St. Mark's Episcopal Church |
| | 46. Esther Hobbs Morris Statue (same as 43) |
| | 47. Robert Burns Memorial |
| | 48. Jim Baker's Trading Post |
| | 49. Big Boy Locomotive |
| | 50. Cheyenne-Ft. Laramie-Deadwood Trail |
| | 51. Pale Creek Ranch |
| | 52. Little Bear Monument |
| | 53. Old Texas Trail |
| | 54. First Missile Site |
| | 55. Iron Mountain Quarry and Mine |
| | 56. Ft. Francis E. Warren |
| | 57. State Museum |
| | 58. Granite Canyon Quarry |
| | 59. Camp Walbach |
| Riding Stables | |
| 60. Sodergreen Horsemanship School | 64. Francis E. Warren AFB Stables |
| 61. Saddle Tramp Riding Club | |
| 62. Hop Anderson Ranch | |
| 63. Yellowstone Riding Stables | |
| 65. Sunset West Riding Stable | |
| Shooting Preserves | |
| | None in County |
| Vacation Farms or Ranches | |
| 66. Remount Ranch | |
| 67. Cheyenne Pass Boys Ranch | |
| Water Sports Area | |
| 68. Boat Club | 69. Sloan's Lake |
| | 70. Granite Reservoir |
| | 71. Crystal Lake |
| Winter Sports Areas | |
| | 72. Lions Park (ice skating) |
| | 73. Holiday Park (ice skating) |
| | 74. United Nations Park (ice skating) |



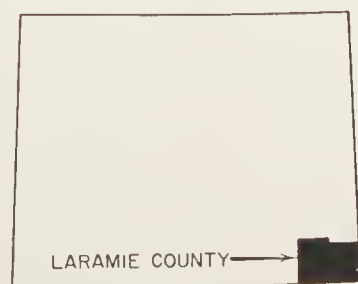
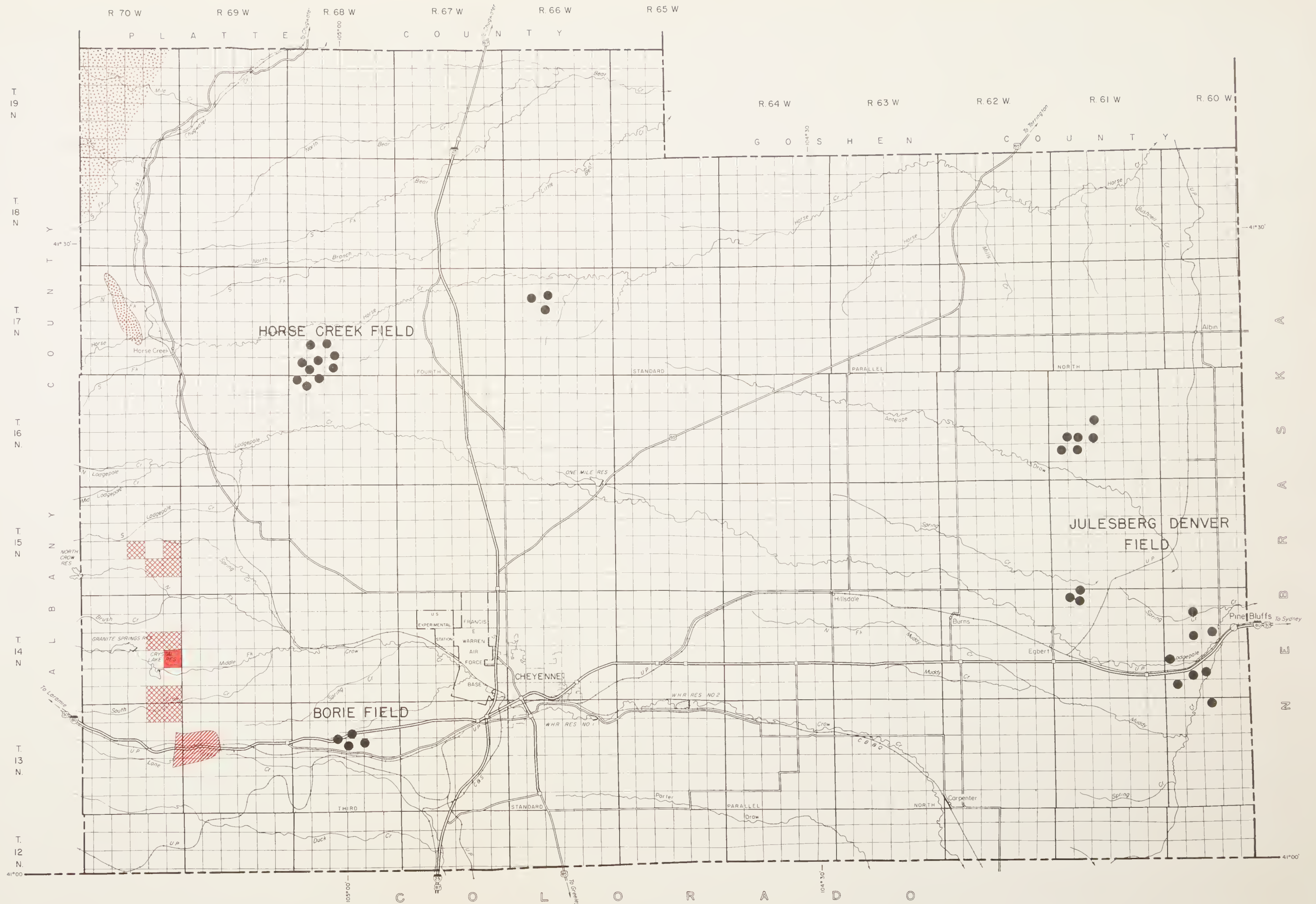
LEGEND

- Pheasant Habitat
- Elk Habitat
- Fishing Waters
- Recreation Areas

Deer, Antelope, Cottontails and Jackrabbits throughout entire County







WILDLIFE AND RECREATION AREAS
LARAMIE COUNTY, WYOMING
 JUNE 1969

0 1 2 3 4 5
 SCALE IN MILES
 SCALE 1:380,160



LOCATION MAP

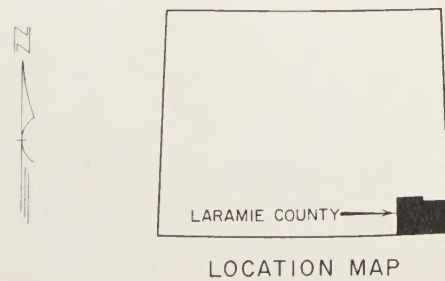
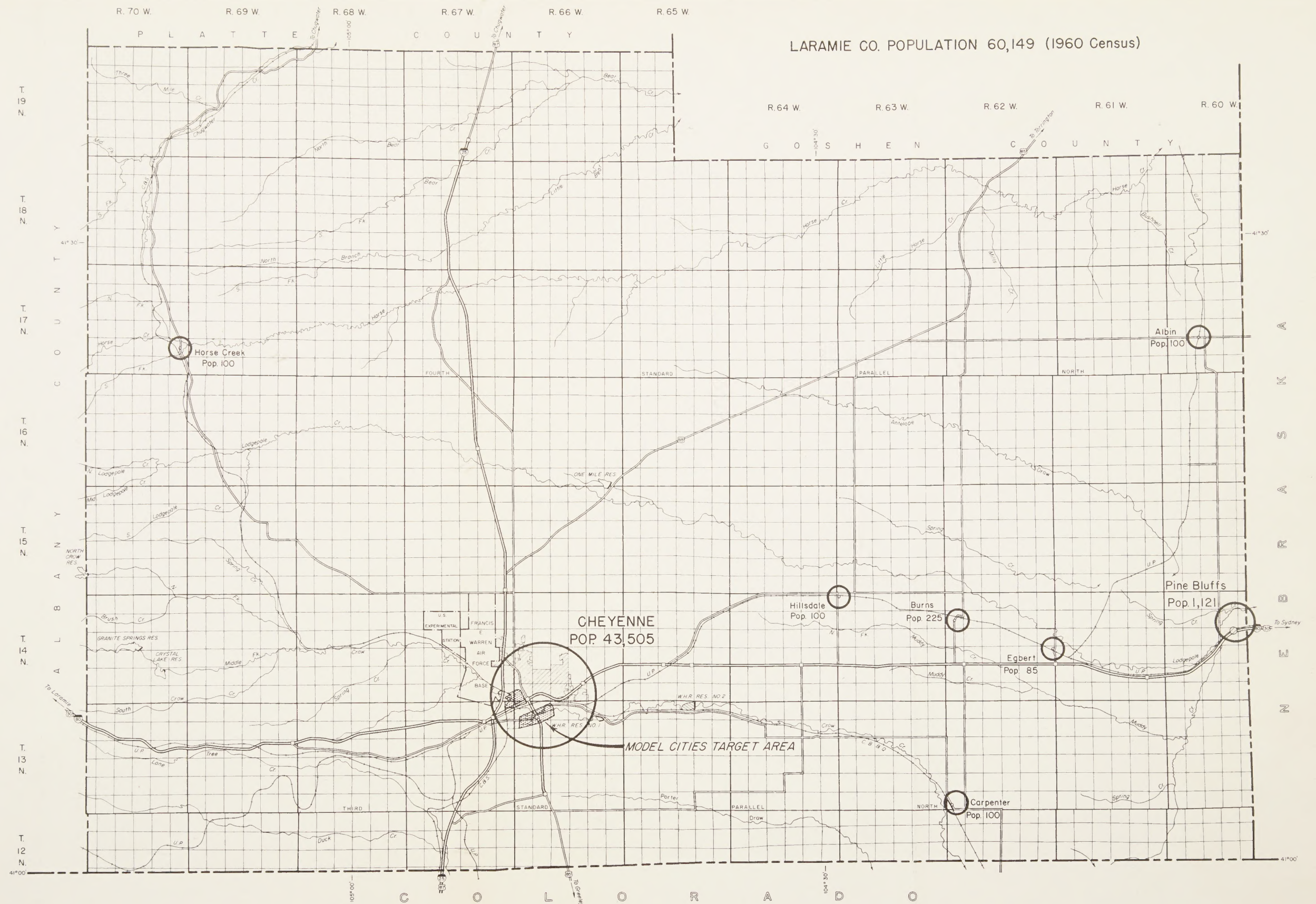
LEGEND

- | | |
|--|--|
|  Hecla Mining District
(COPPER, SILVER AND GOLD) |  Horse Creek Limestone Mines
(LIMESTONE) |
|  Granite Canyon Mines
(CRUSHED ROCK) |  Iron Mountain Area
(IRON) |
|  Silver Crown Mining District
(SILVER, COPPER AND GOLD) |  Oil and Gas - wells |

MINERAL RESOURCE MAP LARAMIE COUNTY, WYOMING

JUNE 1969

SCALE IN MILES
0 1 2 3 4 5
SCALE 1:380,160



POPULATION MAP
LARAMIE COUNTY, WYOMING

JUNE 1969

SCALE IN MILES
1 0 1 2 3 4 5
SCALE 1:380,160

